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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/626,593 | 07/27/2000 | Andre Beaudin | 13587.9 | 9925 |

22913 7590 11/10/2003

WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER &
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SALT LAKE CITY, UT 84111

EXAMINER

LUGO, DAVID B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2634

4

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,593

Applicant(s)

BEAUDIN ET AL.

Examiner

David B. Lugo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 8 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Canada on 8/9/99. It is noted, however, that applicant has not filed a certified copy of the 2,279,774 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 10-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaewell, Jr. et al. U.S. Patent 5,402,451 in view of Garner U.S. Patent 5,530,925.

4. Regarding claims 1 and 10, Kaewell, Jr. et al. teach a spatial diversity combination circuit in Fig. 4 comprising means for receiving demodulated data signals (discrim_a, discrim_b) and strength-indicative signals (rssi_a, rssi_b) each indicative of the strength of one of the received data signals, means for generating control signals (21-23) responsive to the strength-indicative signals, and means for combining in linear proportions (24-26) determined by the control signals those of the data signals which are above a predetermined combiner threshold, as regulated by switches 45 and 46, to provide a combined output signal (see col. 2, line 30 to col. 3, line 29).

5. Kaewell, Jr. et al. do not teach that the signals are only combined when they differ in strength by less than a predetermined margin.

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6. Garner discloses a control circuit for a diversity combiner that bases its decision on whether the difference in signal strength between the two signals is above a preset level (col. 3, lines 28-41).

7. It would have been obvious to one of ordinary skill in the art to combine the teachings of Garner in the diversity combiner of Kaewell, Jr. et al. to reduce the amount of noise or errors introduced into the composite signals that occurs when the difference in strength between the signals is large, as stated by Garner in col. 3, lines 35-38.

8. Regarding claim 2, Garner states in col. 3, lines 38-41 that when the difference in power is greater than a preset level, the signal having the greater signal strength is selected.

9. Regarding claim 3, Kaewell, Jr. et al. teach that in the combination, the greatest proportion is of the strongest signal (col. 2, lines 45-61).

10. Regarding claims 4 and 5, Kaewell, Jr. et al. and Garner do not expressly disclose that the margin is between 3dB and 12 dB, or is 6dB. However, a selection of the exact margin used is deemed a design consideration that fails to patentably distinguish over the prior art of Kaewell, Jr. et al. and Garner.

11. Regarding claim 6, Kaewell, Jr. et al. further disclose that the spatial combination is implemented in a DSP (col. 2, lines 40-44).

12. Regarding claim 7, Garner discloses the evaluation of the strength-indicative signals (col. 3, lines 38-44).

13. Regarding claims 11 and 16, Kaewell, Jr. et al. disclose a spatial diversity radio receiver in Fig. 1 comprising multiple receiving components (11, 12) for receiving data through antennae, each antenna (13, 14) associated with a receiving component having circuitry for providing a

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signal indicative of the strength of the received data signal and a data signal, said receiver including a combiner according to claims 1 and 10, respectively, where the combiner is taught by the combination of Kaewell, Jr. et al. and Garner as discussed above, and inherently comprising circuitry for evaluating the combined output.

14. Regarding claim 12, Kaewell, Jr. et al. disclose a spatial diversity radio receiver in Fig. 1 comprising multiple receiving components (11, 12) for receiving data through antennae, each antenna (13, 14) associated with a receiving component having circuitry for providing a signal indicative of the strength of the received data signal and a data signal, said receiver including a combiner according to claim 2, where the combiner is taught by the combination of Kaewell, Jr. et al. and Garner as discussed above, and inherently comprising circuitry for evaluating the combined output.

15. Regarding claim 13, Kaewell, Jr. et al. disclose a spatial diversity radio receiver in Fig. 1 comprising multiple receiving components (11, 12) for receiving data through antennae, each antenna (13, 14) associated with a receiving component having circuitry for providing a signal indicative of the strength of the received data signal and a data signal, said receiver including a combiner according to claim 4, where the combiner is taught by the combination of Kaewell, Jr. et al. and Garner as discussed above, and inherently comprising circuitry for evaluating the combined output.

16. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaewell, Jr. et al. in view of Garner as applied to claims 1-7 above, and further in view of Gopalaswamy et al. U.S. Patent 6,219,192.

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17. Regarding claim 9, Kaewell, Jr. et al. and Garner teach a diversity combiner as disclosed above, but do not disclose that the receiver comprises DC bias compensation means.

18. Gopalaswamy et al. disclose a method for DC compensation of a data signal when the signal exceeds a predetermined threshold, and varying the DC offset level in dependence upon said detection (see abstract).

19. It would have been obvious to one of ordinary skill in the art to use a DC compensation method as taught by Gopalaswamy et al. in the receiver of Kaewell, Jr. et al. and Garner in order to reduce errors in the received signal attributed to undesired DC offset.

20. Regarding claim 15, Kaewell, Jr. et al. disclose a spatial diversity radio receiver in Fig. 1 comprising multiple receiving components (11, 12) for receiving data through antennae, each antenna (13, 14) associated with a receiving component having circuitry for providing a signal indicative of the strength of the received data signal and a data signal, said receiver including a combiner according to claim 9, where the combiner is taught by the combination of Kaewell, Jr. et al., Garner and Gopalaswamy et al. as discussed above, and inherently comprising circuitry for evaluating the combined output.

Allowable Subject Matter

21. Claims 8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach a diversity combiner comprising means for producing a second derivative for each strength-indicative signal where a control signal is

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generated according to a predetermined combination of the strength-indicative signals and the second derivative signals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David B. Lugo** whose telephone number is **(703) 305-0954**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

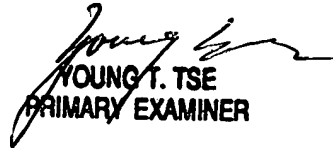
or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

dbl
10/31/03


YOUNG T. TSE
PRIMARY EXAMINER